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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/789,593

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12/14/2006

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EXAMINER

PIPALA, EDWARD J

ART UNIT

PAPER NUMBER

3663

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/789,593

Applicant(s)

CHRISTIE ET AL.

Examiner

Edward Pipala

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-36 and 42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-36, 42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This Office action is in response to Applicant's amendment and remarks of 9/22/06.

Claims 1-6 and 37-41 have been canceled.

Original claims 7-36 remain.

New claim 42 has been added

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-10, 17-23, 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaer et al (USPN 6,871,137) in view of Hawthorne et al. (US Pub. 2002/0010531 A1).

With respect to independent claims 7 and 29, which essentially recite a geographic information display system and database for "displaying said geographic information regarding said track section occupied by said train with said geographic information regarding said static roadway data and said static track data", once the geographic starting and ending position of a track section occupied by the train are determined.

Scaer et al. disclose a web-based transportation decision support system and geographic information system (GIS) application that uses information available from federal, state, local, and commercial transportation sources, and provides users with detailed road and rail information about routes and infrastructure characteristics, as well as real-time information from cameras, speed sensors, construction and accident reporting systems, and GIS based weather. Additionally, the invention provides users with the immediate ability to track and report surface shipments on an extremely accurate spatial data background. However, even though Scaer et al. discloses providing users with detailed road and rail information and real time tracking, Scaer et al. does not disclose relating the detected position of a train with respect to a particular section of track, per se.

Hawthorne et al. disclose a method of determining train and track characteristics using navigational data, in part by two or more position determining devices at spaced locations along the train, thereby determining the location of the train on the track by comparing the collected position data with previously stored track profiles and characteristics (section 0011 and sections 0034 -0036). Further, figure 2 shows relating the beginning and ending positions of a section of track with GPS coordinates in the form of latitude and longitude.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the GPS track section location teaching of Hawthorne et al., within the context of the GIS and web-based information system of

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Scaer et al., primarily because Scaer et al. already teaches tracking of vehicle and shipments in conjunction with display thereof on a detailed road and rail network, but also because the GIS data for the road and rail information normally includes GPS/latitude-longitude position information as part of its format and design.

With respect to claims 8-10 and 17-23 which recite the use of latitude and longitude coordinates to identify nodes or sections and the display of same, as well as reciting that the geographic information system database is comprised of separate layers for roadway and track data, respectively, please see the section of Scaer et al. starting at the heading Summary of the Invention (col. 2, l. 30) through to the bottom of column 3. Additionally, column 10, line 30 through col. 11 line 11 and in particular col. 12, ll. 29-50 (wrt data layers and the display of rail information).

3. Claims 11-16, 24-25 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scaer et al. and Hawthorne et al., as applied to claims 7-10 and 17-23 above, and further in view of Kane et al. (US Pub. 2004/0182969 A1).

The combination of Scaer et al. and Hawthorne et al. discussed above with respect to claim 7 provides for display of a section of track which a train is determined to be occupying, but does not provide or disclose determining the starting/ending positions of "another track section", a "cleared" track section to be occupied by the train at a future time, a "planned" track section, or the position of a second train on a second section of track.

Kane et al. discloses a train control "block" system (as shown in figure 2), in which train position information used in conjunction with track information to determine the status of the next (cleared/another) section of track, and a yet "further" or "cleared" section of track.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have been aware and have used the known train management and control (block) system of Kane et al., within the context of the above combination of Scaer et al. and Hawthorne et al., at least because all are in the same field of train position location and control, and because Scaer et al. in particular teaches the use of vehicle dispatch systems and real time tracking.

With respect to claims 11-13 which recite determining another track section is occupied and yet another cleared, and claims 14-16 which recite similar subject matter but also with the use of colors to designate these three block track sections, please see sections 0012-0016 of Kane et al. which disclose the use of the colors green, yellow and red in designating whether sections of track are occupied or ready to be occupied by the train.

With respect to claims 24 and 25, once again reciting determining and display of occupancy of track sections, please see the same sections as noted supra.

With respect to claim 42, which recites determining the geographic information regarding first and second track sections for first and second trains from the starting and ending positions of the respective track sections, this would have been obvious to one of ordinary skill in the art at the time of the invention in that it would simply entail tracking the starting and ending locations of two trains instead of just one, and because

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Kane et al. already teaches in the latter part of section 16 that "a central authority monitors the locations of trains in the system and instructs the switches 32, 42, 52 to transmit a message as the train approaches".

4. Claims 31-36 rejected under 35 U.S.C. 103(a) as being unpatentable over Scaer et al. and Hawthorne et al., as applied to claims 7-10, 17-23, 26-30 above, and further in view of Rutledge et al. (USPN 6,650,998).

With respect to claim 31, the combination of Scaer et al. and Hawthorne et al. discussed above with respect to claims 29 and 30 above, provides for a web-based geographic information system which provides users with tracking and track section information for displaying the location of a train, but does not particularly address the claimed issues with respect to a translation routine for relating track starting and ending positions with the geographic information contained in the GIS data record file.

Rutledge et al. also discloses an information search and display system, as well as explaining the process of displaying multiple layers of GIS information through the conventional techniques of using vector and raster formats (col. 4, ll. 16-64). In col. 6, ll. 11-22, Rutledge et al. discloses that the data is geo-referenced to a common coordinate system and that the map database is represented as an object-oriented database in which each map record or tile consists of a list of objects (as shown in figures 8 and 9 and which is further discussed in from the bottom of col. 9 through line 56 of col. 10).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have made use of the teachings of Rutledge et al. with respect to display presentation of a layered GIS based information search system so as

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to provide a visible representation of latitude and longitude related information, because these principles would most likely have been used to display the layered GIS database information of Scaer et al. as well.

With respect to claim 32, and the recitation of an image generator routine, please see previously noted col. 4, ll. 16-64 of Rutledge et al.

With respect to claim 33 and the recitation of associating geographic areas with starting longitude and starting latitude, etc., previously noted line 31-36 of column 3 of Rutledge et al., discloses use of a database having location/coordinates, whereas it was also previously noted that longitude/latitude coordinates and part of the GIS format for data elements and their files, within the separate layers of road and rail data.

With respect to claim 34-36, and the recitations of a global communication network, web browser, display applets and streaming vector based display outputs for displaying train position, for the most part please see figure 1 of Rutledge et al., as well as the bottom of column 3 and most of column 4, which disclose the conventional manner in which GIS type spatial data is displayed when it is constructed of a multitude of user selectable layers.

### ***Response to Arguments***

5. Applicant's arguments filed 9/22/2006 have been fully considered but they are not persuasive.

Applicant's comments with respect to Scaer et al., spanning pages 9-11 of Applicant's remarks, indicate that the reference does indeed disclose a web-based GIS type application in which users are able to immediately track and report surface



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shipments on an extremely accurate spatial data background which may include roads, railroads and detailed railways, as well as a primary option which may include find functions and status reports for the indicated rail lines.

Applicant also goes on to indicate the fundamental substantive features of Hawthorne et al., including that it discloses using position data from a train to determine characteristics of the train or the track on which it is traveling. At the bottom of page 11 of Applicant's remarks, and midway through page 12, Applicant kindly points out that GPS (as well as other track dependent information) is collected and that by knowing the position of at least two points on the train (as disclosed by Hawthorne et al.), one is able to more accurately determine where a train is on a track and display same, by comparison with prestored databases.

Subsequent to discussing the independent merits of both Scaer et al. and Hawthorne et al., Applicant then proceeds (at the top of page 13) to seemingly argue that neither of the references independently teach or suggest the subject matter of independent claim 7, as well as each of the remaining claims on a claim-by-claim basis.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Further, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the

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references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Applicant did correctly point out an error on the Examiner's part with respect to mention of Rutledge et al. instead of Kane et al., as noted by the footnote at the bottom of page 16 of Applicant's remarks. This has been corrected in the present rejection.

### ***Conclusion***

**6. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Pipala whose telephone number is 571-272-1360. The examiner can normally be reached on M-F 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
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SUPERVISORY PATENT EXAMINER